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State of Wisconsin
Governor Tony Evers

Department of Agriculture, Trade and Consumer Protection
Bradley M. Pfaff, Secretary

Wisconsin Weights and Measures Laboratory

Calibration Certificate Statement of Uncertainty, Traceability, Limitations, and Conditions

for calibration work performed for:

A-1 SCALE COMPANY, INC.

3287 SHERMAN WAY
SLINGER
WI
53086
(262) 677-3555

Date Received:	2/28/2019	State Test No.:	W19-078
Date of Calibration:	3/1/2019		
Date Due:	3/1/2021		

Uncertainty Statement

For the weights used in this calibration, some components can be assessed through a Type A evaluation, the method for assessing uncertainty by a statistical analysis of measured quantity values obtained under defined measurement conditions. In addition, other components were assessed from a Type B evaluation of standard uncertainty, based on scientific judgement using all of the relevant information available. The combined standard uncertainties multiplied by those coverage factors specified in our standard calibration records, to provide an expanded uncertainty. This uncertainty defined an interval having a level of confidence of approximately 95 per cent, assuming normal distribution. The expanded uncertainty presented in this report is consistent with the ISO/IEC Guide to the Expression of Uncertainty in Measurement using the method Root Sum Squares (JCGM 100:2008).

Traceability Statement

The standards used by the Wisconsin State laboratory demonstrate an unbroken traceable chain to the International System of Units (SI) through the National Institute of Standards and Technology (NIST) and are part of a comprehensive measurement assurance program for ensuring continued accuracy and measurement traceability within the level of uncertainty reported by this laboratory. The laboratory maintains documented calibration intervals and uses documented procedures, all under the performance of trained personnel who demonstrate suitable measurement assurance for the information listed in this calibration report. The laboratory test number identified above is the unique report number to be used in referencing measurement traceability for the artifacts identified in this report. The State Standards are traceable to the SI unit for mass, the kilogram.

Limitations and Conditions Statement

These results relate only to the items calibrated in this report. Weights and weight carts are calibrated to NIST Handbook 105-1 (1990) and NIST Handbook 105-8 (2003), respectively, using NISTIR 6969: Selected Laboratory Measurement Practices and Procedures to Support Basic Mass Calibrations (2018). Class F tolerances are usable for testing commercial weighing devices in Wisconsin, following NIST Handbook 44, Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices. Weights calibrated to ASTM tolerance 7 by this laboratory cannot be used for testing commercial weighing devices in Wisconsin, by definition (See NIST Handbook 105-1, Specification 1). Weight calibrated by ASTM Standard Specification E617-13 are not checked for density [Stainless steel weights are assumed 8.0 g/cm3], or for magnetism.

The following standard(s) were used: Avoirdupois Weight Set WS-1

Paul Masterson
Paul Masterson, Chief Metrologist

Justin Lien, Laboratory Director

3601 Galleon Run • Madison, WI 53718 • (608) 224-4910

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Calibration Certificate

Date Received: February 28, 2019
Date of Calibration: March 01, 2019
Date Due: March 01, 2021

Customer: A-1 SCALE COMPANY, INC.
Address: 3287 SHERMAN WAY
SLINGER, WI 53086
Contact: SCOTT KLESPER
Phone: (262) 677-3555
PO Number: 11719-JP

State Test No.: W19-078
Item(s) Submitted: Weight Kit
Manufacturer: Rice Lake
Condition: Good
Tolerance Class: NIST HB 105-1 (1990), Class F
Kit Serial #: A1-WS2
Balance ID#: 6&7
Procedure Used: NISTIR 6969 (2018), SOP 8
Temperature: 21.5 °C
Relative Humidity: 46.8 %
Pressure: 742.8 mmHg

Nominal Mass	Mass Unit	Serial No.	Conventional Mass Correction (mg) As Found	Conventional Mass Correction (mg) As Left	NIST HB 105-1 (1990), Class F As Found	NIST HB 105-1 (1990), Class F As Left	Uncertainty (mg)	Coverage Factor (k)
10	lb		83	83	Pass	Pass	54	2.03
5	lb		59	59	Pass	Pass	28	2.03
2	lb		21	21	Pass	Pass	11	2.03
2	lb	*	22	22	Pass	Pass	11	2.03
1	lb		22.3	22.3	Pass	Pass	8.4	2.03
0.5	lb		18.3	18.3	Pass	Pass	5.5	2.03
0.2	lb		6.7	6.7	Pass	Pass	2.1	2.03
0.2	lb	*	4.0	4.0	Pass	Pass	2.1	2.03
0.1	lb		3.5	3.5	Pass	Pass	1.1	2.03
0.05	lb		1.78	1.78	Pass	Pass	0.54	2.03
0.02	lb		0.19	0.19	Pass	Pass	0.22	2.03
0.02	lb	*	0.76	0.76	Pass	Pass	0.22	2.03
0.01	lb		0.77	0.77	Pass	Pass	0.18	2.03
0.005	lb		0.84	0.84	Pass	Pass	0.15	2.03
0.002	lb		0.26	0.26	Pass	Pass	0.11	2.03
0.002	lb	*	0.52	0.52	Pass	Pass	0.11	2.03
0.001	lb		0.327	0.327	Pass	Pass	0.092	2.03

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